

REMARKS

Claims 1-25 are currently pending in this application. Claim 16 has been withdrawn from consideration. Claims 1-4 and 25 have been amended, and Claim 26 has been added. Applicant respectfully requests reconsideration of the pending claims in view of the following remarks.

Claim Rejections 35 U.S.C. § 102

The Examiner rejected Claims 1-4, 15, 18, and 21-25 as being anticipated by U.S. Patent No. 4,712,160 ("Sato").

Sato does not disclose the subject matter of amended independent Claim 1. More specifically, Sato does not disclose a power supply circuit comprising at least one transformer which is connected to a primary side circuit and to a secondary side circuit, wherein the plane defined by the at least one secondary side circuit carrier extends in a direction substantially transverse to the plane defined by the at least one primary side circuit carrier, and wherein the at least one primary side circuit carrier is separated by an electrically insulating layer from the at least one secondary side circuit carrier.

Rather, Sato discloses a power module illustrated in Figs. 1A and 1B. The power module includes a primary circuit board 1 and a secondary circuit board 2 separated by a transformer 3. The primary circuit board 1, the secondary circuit board 2, and the transformer 3 are joined by an electrical insulation material or resin 4. As clearly illustrated in Figs. 1A and 1B, the primary circuit board 1 and the secondary circuit board 2 are arranged in a parallel configuration. Further, because the primary circuit board 1 and the secondary circuit board 2 are located on opposite sides of the transformer 3, it is clear that the boards 1 and 2 are arranged parallel to one another.

The problem underlying the present invention is to provide a power supply circuit and a fabrication method which allows for a reduced size and an enhanced power density. Furthermore, an enhanced flexibility when planning the distances between the primary and secondary side can be achieved by the orientation of the primary side with respect to the secondary side (as specified in Claims 1 and 3).

The advantage of the orientation of the primary side with respect to the secondary side improves the power density significantly and new applications for the power supply circuit can be utilized wherein size and form factor are a design consideration. In addition, by using the third dimension, an improved capability for forming the air and creepage distances can be achieved.

For at least these reasons, Sato does not disclose the subject matter of Claim 1. Accordingly, independent Claim 1 is allowable. Claims 5-24 depend from Claim 1, and are allowable for at least the reasons Claim 1 is allowable.

Sato does not disclose the subject matter of amended independent Claim 3. Sato does not disclose a power supply circuit comprising at least one transformer which is connected to a primary side circuit and to a secondary side circuit, wherein the primary side circuit and the secondary side circuit are each mounted on at least one separate circuit carrier, said circuit carriers being mechanically and electrically coupled with one another and arranged in at least two different planes, wherein the primary side circuit is mounted on a plurality of primary side circuit carriers, the planes of which are substantially in parallel with one another.

Rather, Sato discloses a power module illustrated in Figs. 1A and 1B. The power module includes a primary circuit board 1 and a secondary circuit board 2 separated by a transformer 3. The primary circuit board 1, the secondary circuit board 2, and the transformer 3 are joined by an electrical insulation material or resin 4. The components of the primary circuit board 1 are arranged on a single circuit carrier.

Accordingly, independent Claim 3 is allowable.

Sato does not disclose the subject matter of amended independent Claim 25. As discussed above, Sato does not disclose a method for producing a power supply circuit comprising at least one transformer, a primary side circuit and a secondary side circuit, said method comprising the following step: electrically and mechanically coupling the circuit carriers with the transformer, the circuit carriers being arranged in at least two different planes, wherein the plane which is defined by the at least one secondary side circuit carrier extends in a direction substantially transverse to the plane defined by the at least one primary side circuit carrier, and wherein the at least one primary side circuit carrier is separated by an electrically insulating layer from the at least one secondary side circuit carrier.

Accordingly, independent Claim 25 is allowable.

Claim Rejections 35 U.S.C. § 103

The Examiner also rejected Claims 5-14, 17, 19, and 20 as being unpatentable over Sato in view of U.S. Patent No. 4,925,723 ("Bujatti").

Claims 5-14, 17, 19, and 20 depend from Claim 1, and are allowable for at least the reasons Claim 1 is allowable. As discussed above, Sato does not disclose the subject matter of Claim 1. Bujatti does not cure the deficiencies of Sato. Bujatti does not disclose a power supply circuit comprising at least one transformer which is connected to a primary side circuit and to a secondary side circuit, wherein the plane defined by the at least one secondary side circuit carrier extends in a direction substantially transverse to the plane defined by the at least one primary side circuit carrier, and wherein the at least one primary side circuit carrier is separated by an electrically insulating layer from the at least one secondary side circuit carrier.

Rather, Bujatti discloses a circuit substrate having metal filled vias which are suitable for microwave applications. In addition, under the reasoning set forth in *KSR v. Teleflex*, there is no reason for the combination of Sato and Bujatti.

New Claim

Independent Claim 26 has been added. For at least the reasons discussed above, Sato and Bujatti do not disclose a method for producing a power supply circuit comprising at least one transformer, a primary side circuit and a secondary side circuit, said method comprising the following step: electrically and mechanically coupling the circuit carriers with the transformer, the circuit carriers being arranged in at least two different planes, wherein the primary side circuit is mounted on a plurality of primary side circuit carriers, the planes of which are substantially in parallel with one another.

Accordingly, independent Claim 26 is allowable.

CONCLUSION

In view of the foregoing, entry of this Amendment and allowance of Claims 1-26 are respectfully requested. The undersigned is available for telephone consultation during normal business hours.

Respectfully submitted,

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